IN THE CLAIMS:

The text of all pending claims (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. When strikethrough cannot easily be perceived, or when five or fewer characters are deleted, [[double brackets]] are used to show the deletion. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 8, 13, and 17 and in accordance with the following:

1. (Original) A magnetic core-coil assembly for generating an ignition event in a spark ignition internal combustion system having at least one combustion chamber, comprising a magnetic core that is iron based and further comprises metallic elements including nickel and cobalt, glass forming elements including boron and carbon, and semi-metallic elements, including silicon, said core being fabricated by heat treating an amorphous magnetic alloy and having a primary coil for low voltage excitation and a secondary coil for a high voltage output to be fed to a spark plug, said core-coil assembly having the capability of (i) generating a high voltage in the secondary coil within a short period of time following excitation thereof, and (ii) sensing spark ignition conditions in the combustion chamber to control the ignition event.

2. (Original) A magnetic core-coil assembly as recited in claim 1, wherein the magnetic core comprises segmented cores.

3. (Original) A magnetic core-coil assembly as recited in claim 1, wherein the output voltage in the secondary coil reaches more than 10 kV with a primary current of less than about 120 amp-turns and more than 20 kV with a primary current of 200 to 300 amp-turns within 25 to 100 μsec.

4. (Original) A magnetic core-coil assembly as recited in claim 1, wherein the magnetic core is non-gapped.

5. (Original) A magnetic core-coil assembly as recited in claim 1, wherein the magnetic core is gapped.

6. (Original) A magnetic core-coil assembly as recited in claim 4, wherein the magnetic core is heat-treated at a temperature near the alloy's crystallization temperature and partially crystallized.

7. (Original) A magnetic core-coil assembly as recited in claim 5, wherein the magnetic core is heat-treated below the alloy's crystallization temperature and, upon completion of the heat treatment, remains substantially in an amorphous state.

8. (Currently amended) A magnetic core-coil assembly for generating an ignition event in a spark ignition internal combustion system having at least one combustion chamber, comprising a magnetic core that is metal-based and comprises metallic elements, glass forming elements and semi-metallic elements, having a primary coil for low voltage excitation and a secondary coil for a high voltage output to be fed to a spark plug, the core comprising heat-treated amorphous metal alloy, being non-gapped, and having a permeability ranging from about 100 to 300, said core-coil assembly having the capability of (i) generating a high voltage in the secondary coil within a short period of time following excitation thereof, and (ii) sensing spark ignition conditions in the combustion chamber to control the ignition event.

9. (Original) A magnetic core-coil assembly as recited in claim 8, said amorphous metal being iron-based.

10. (Original) A magnetic core-coil assembly as recited in claim 9, said amorphous metal further comprising boron and silicon.

11. (Original) A magnetic core-coil assembly as recited in claim 8, said permeability being achieved by heat-treatment of said amorphous metal.

12. (Original) A magnetic core-coil assembly as recited in claim 8, wherein the output voltage in the secondary coil reaches more than 10 kV with a primary current of less than about 120 amp-turns and more than 20 kV with a primary current of 200 to 300 amp-turns within 25 to 100 μsec.

13. (Currently amended) A magnetic core-coil assembly for generating an ignition event in a spark ignition internal combustion system having at least one combustion chamber, comprising a magnetic core that is metal-based and comprises metallic elements, glass forming elements, and semi-metallic elements, having a primary coil for low voltage excitation and a secondary coil for a high voltage output to be fed to a spark plug, the core comprising iron-based amorphous metal alloy heat-treated to have a permeability ranging from about 100 to 300, said core-coil assembly having the capability of (i) generating a high voltage in the secondary coil

within a short period of time following excitation thereof, and (ii) sensing spark ignition conditions in the combustion chamber to control the ignition event.

14. (Original) A magnetic core-coil assembly as recited in claim 13, said amorphous metal further comprising boron and silicon.

15. (Original) A magnetic core-coil assembly for generating an ignition event in a spark ignition internal combustion system having at least one combustion chamber, comprising a magnetic core is iron based and further comprises metallic elements including nickel and cobalt, glass forming elements including boron and carbon, and semi-metallic elements, including silicon, said core being fabricated by heat treating an amorphous magnetic alloy having a primary coil for low voltage excitation and a secondary coil for a high voltage output to be fed to a spark plug, the core comprising iron-based amorphous metal and being non-gapped, said core-coil assembly having the capability of (i) generating a high voltage in the secondary coil within a short period of time following excitation thereof, and (ii) sensing spark ignition conditions in the combustion chamber to control the ignition event.

16. (Original) A magnetic core-coil assembly as recited in claim 15, said amorphous metal further comprising boron and silicon.

17. (Currently amended) A magnetic core-coil assembly for generating an ignition event in a spark ignition internal combustion system having at least one combustion chamber, comprising a magnetic core <u>comprising metallic elements, glass forming elements, and semi-metallic elements, said core being fabricated by heat treating an amorphous magnetic alloy, the core</u> having a primary coil for low voltage excitation and a secondary coil for a high voltage output to be fed to a spark plug, the core comprising iron-based amorphous metal and having a permeability ranging from about 100 to 300, said core-coil assembly having the capability of (i) generating a high voltage in the secondary coil within a short period of time following excitation thereof, and (ii) sensing spark ignition conditions in the combustion chamber to control the ignition event.

18. (Original) A magnetic core-coil assembly as recited in claim 17, said amorphous metal further comprising boron and silicon.